



Course guide

820328 - RSE - Energy Sector Regulation

Last modified: 02/03/2026

Unit in charge: Barcelona East School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

Degree: BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: JORGE DE LA HOZ CASAS

Others: Primer quadrimestre:
JORGE DE LA HOZ CASAS - Grup: M11, Grup: M12

Segon quadrimestre:
JORGE DE LA HOZ CASAS - Grup: T11

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CEENE-16. Formulate energy balances and identify losses.

CEENE-01. Knowledge of energy supply procurement systems.

Transversal:

1. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

The teaching methodology is based on theoretical lectures combined with the development and resolution of real-world problems related to the subject matter of the course, with the aim of facilitating students' understanding of the concepts and their practical application.

LEARNING OBJECTIVES OF THE SUBJECT

The aim of the subject is to provide the basic knowledge of how the Spanish energy sectors are structured and managed, as well as a perspective on the regulatory framework for major activities of the various energy sectors.

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	20.00
Hours medium group	30,0	20.00
Self study	90,0	60.00



Total learning time: 150 h

CONTENTS

(ENG) Introduction to Electricity Sector

Description:

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Specific objectives:

Energy targets
Sector structure
Economic framework
Administrative control

Full-or-part-time: 4h

Theory classes: 4h

(ENG) Power generation I

Description:

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Specific objectives:

Power generation as liberalized activity
SES operation and economic mechanisms
Power generation characteristics and economic consequences

Full-or-part-time: 4h

Theory classes: 4h

(ENG) Power generation II

Description:

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Specific objectives:

Renewable energy policies and applied legal frameworks
Control deficiencies and renewable energy promotion
Renewable energy and retroactivity
New renewable energy legal framework

Full-or-part-time: 4h

Theory classes: 4h



(ENG) Regulated activities

Description:

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Specific objectives:

Legal framework and objectives
Transmission and distribution activities
The system operator
The operator and the technical management

Full-or-part-time: 4h

Theory classes: 4h

(ENG) Electricity markets

Description:

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Specific objectives:

Legal framework and objectives
Whole sale market
Retail market

Full-or-part-time: 4h

Theory classes: 4h

(ENG) Introduction to the Natural Gas Sector

Description:

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Specific objectives:

Legal framework
Infrastructure and management of the system
The regulatory body
Economic framework

Full-or-part-time: 4h

Theory classes: 4h

PBL_I

Description:

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Full-or-part-time: 60h

Laboratory classes: 15h

Self study : 45h



PB_II

Description:

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Full-or-part-time: 60h
Laboratory classes: 15h
Self study : 45h

Tests intended for the classroom

Description:

These hours are intended to perform the various tests of continuous assessment associated with the contents of the course.

Full-or-part-time: 6h
Theory classes: 6h

GRADING SYSTEM

Throughout the course, students will progressively deepen their understanding of the main concepts of energy sector regulation (RSE) through a combination of theoretical lectures and problem-solving sessions. The theoretical contents and the problems will be organised into different thematic blocks.

The proposed problems aim to replicate the main real-world situations that students of the Degree in Energy Engineering may encounter in the professional environment when performing tasks related to energy sector regulation.

The assessment of the course will be carried out through several evaluation activities associated with the thematic blocks covered throughout the semester. Although the problems may be worked on in groups, the assessment tests or partial exams will be conducted individually.

There will be a minimum of four partial exams that may be held within the scheduled class hours. The dates of the partial exams (day and time) and the course planning will be available on Atenea. Each of these exams will have the same percentage weight in the final grade.

BIBLIOGRAPHY

Basic:

- Pérez-Arriaga, Ignacio J. Regulation of the Power Sector [on line]. 2a. London: Springer London, 2013 [Consultation: 11/06/2020]. Available on: <http://dx.doi.org/10.1007/978-1-4471-5034-3>. ISBN 9781447150343.